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(54) **Integrated circuits with metallic fuses and method**

(57) An integrated circuit is provided having a metal fuse link (36) severable by a laser beam which may enhance the long term reliability of metal interconnects and the fuse link (36). The integrated circuit includes an insulating layer (22) formed on a semiconductor substrate (20); at least one pair of metal wiring layers (38A,38B) formed on the insulating layer (22) and preferably having ends opposite to each other; and a barrier metal fuse

layer (32), preferably formed on the upper surfaces of the metal wiring layers, on the side surfaces of the opposing ends and in between the ends, to define a fuse link (36) severable by irradiation with laser beam energy, the fuse layer (32) being less susceptible to electromigration than the metal wiring layers (38A,38B) and/or more absorptive of irradiating laser beam energy than the metal wiring layers (38A,38B).

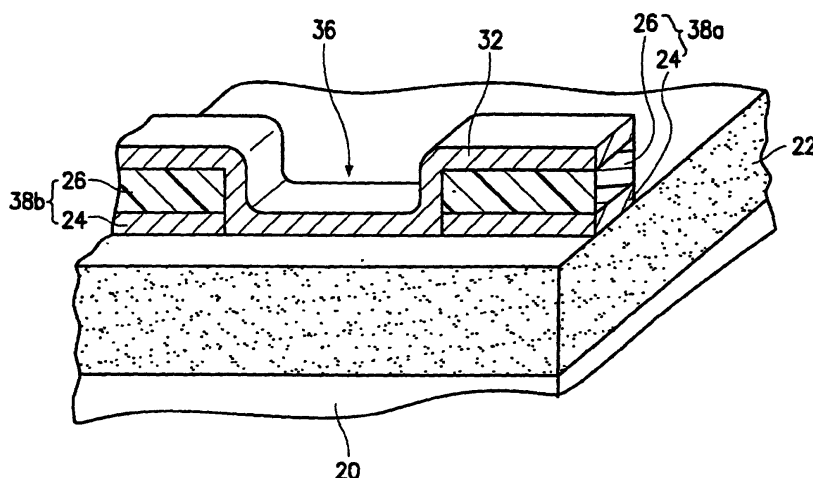


FIG. 5

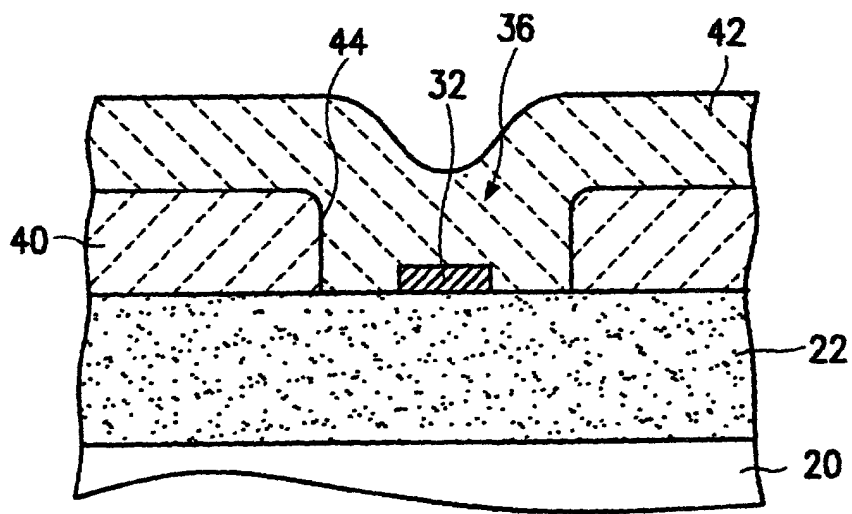


FIG. 6



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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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A	---	10,12, 13,15,16	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 20 April 2004	Examiner Morena, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P4/C01)



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EUROPEAN SEARCH REPORT

Application Number
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A	US 5 025 300 A (BILLIG JAMES N ET AL) 18 June 1991 (1991-06-18) * abstract * * column 2, line 17 - column 3, line 2 * * column 4, line 37 - line 57 * * claims 1,3,8,11 * -----	1,2,7, 10,12, 13,16-19	
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CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 30 4456

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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